

Notice of Allowability

Application No.

10/645,529

Examiner

Hoai V Pham

Applicant(s)

KOKUBUN, KOICHI

Art Unit

2814

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 22 August 2003.
2. ☒ The allowed claim(s) is/are 7-18.
3. ☒ The drawings filed on 22 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/178,749.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 22 August 2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



Hoai Pham
May 21, 2004

DETAILED ACTION

Examiner's amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. The application has been amended as follows:

In the specification:

Change the title to: --METHOD OF MANUFACTURING THE SEMICONDUCTOR DEVICE HAVING A CAPACITOR FORMED IN SOI SUBSTRATE--.

Page 1, after the "CROSS-REFERENCE TO RELATED APPLICATION" insert
--This is a divisional of Application No. 10/178,749 filed June 25, 2002, now U.S. Pat. No. 6,635,915.--.

Allowable Subject Matter

3. Claims 7-18 are allowed.

4. The following is an examiner's statement of reasons for allowance: the prior of record fails to disclose the combination of the process steps of forming a semiconductor device recited in the base claim 7, including the combination of the process steps comprising: etching back the first insulating film to such a depth as to reach an upper surface of the buried insulating film, using the second insulating film as a mask, and recessing the buried insulating film exposed to the sidewall portion of the trench;

forming a semiconductor layer by epitaxial growth in a gap created by the recessed buried insulating film. And the prior of record fails to disclose the combination of the process steps of forming a semiconductor device recited in the base claim 13, including the combination of the process steps comprising: etching back the first insulating film to such a depth as to reach an upper surface of the buried insulating film, using the second insulating film as a mask, and recessing the buried insulating film exposed to the sidewall portion of the trench; depositing a polysilicon layer on a major surface of the SOI substrate and in the trench; etching back the polysilicon layer by performing anisotropy etching to cause the polysilicon layer to remain in a gap created by the recessed buried insulating film in the trench.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai V Pham whose telephone number is 571-272-1715. The examiner can normally be reached on 9:30A.M. - 8:00P.M..

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hoai Pham
May 21, 2004